WHAT IS CLAIMED IS:

1. A method for stabilizing a valve annulus of a heart for performing a procedure on the valve annulus, the method comprising:

introducing at least a first stabilizing member beneath one or more leaflets of a valve of the heart to engage the annulus at an intersection between at least one leaflet and an interior ventricular wall of the heart; and

applying force to the first stabilizing member to stabilize the valve annulus.

2. A method as in claim 1, wherein introducing comprises passing the member beneath at least the posterior leaflet of the mitral valve of the heart.

3. A method as in claim 1, wherein applying force to the first stabilizing member exposes the valve annulus from surrounding tissue of the heart.

4. A method as in claim 1, wherein introducing comprises advancing an elongate catheter carrying the first stabilizing member through vasculature of a patient to the heart, wherein the first stabilizing member is adapted to change between a flexible configuration for introduction through the vasculature and a curved configuration to conform to the annulus.

5. A method as in claim 4, further comprising changing the shape of the first stabilizing member to conform to the annulus.

6. A method as in claim 5, wherein changing the shape of the first stabilizing member comprises articulating the stabilizing member in at least two directions.

7. A method as in claim 5, wherein changing the shape of the first stabilizing member comprises applying tension to at least a first tensioning cord to cause a first bend in the stabilizing member.

8. A method as in claim 7, wherein changing the shape further comprises applying tension to at least a second tensioning cord to cause a second bend in the stabilizing member.

9. A method as in claim 8, wherein the first bend comprises approximately a C-shaped bend to conform the stabilizing member to the annulus, and the second bend comprises an upwardly directed bend.

10. A method as in claim 5, wherein changing the shape of the first stabilizing member comprises introducing a fluid into a shape-memory stabilizing member.

11. A method as in claim 5, further comprising locking the shape of the first stabilizing member.

12. A method as in claim 1, wherein applying force to the first stabilizing member comprises applying upwardly directed force in a direction from the ventricles toward the atria of the heart.

13. A method as in claim 1, wherein stabilizing further comprises introducing at least a second stabilizing member over the valve leaflets.

14. A method as in claim 13, further comprising moving the second stabilizing member toward the first stabilizing member to further stabilize the valve annulus.

15. A method for stabilizing a valve annulus of a heart for performing a procedure on the valve annulus, the method comprising:

advancing a flexible, elongate stabilizing catheter through vasculature of a patient to the heart;

introducing at least a first stabilizing member of the stabilizing catheter beneath one or more leaflets of a valve of the heart to engage the annulus at an intersection between at least one leaflet and an interior ventricular wall of the heart;

changing the shape of the stabilizing member to conform to the annulus; and

applying force to the stabilizing member to stabilize the valve annulus.

16. A method as in claim 15, wherein changing the shape of the first stabilizing member comprises articulating the stabilizing member in at least two directions.

17. A method as in claim 15, wherein changing the shape of the first stabilizing member comprises applying tension to at least a first tensioning cord to cause a first bend in the stabilizing member.

18. A method as in claim 17, wherein changing the shape further comprises applying tension to at least a second tensioning cord to cause a second bend in the stabilizing member.

19. A method as in claim 18, wherein the first bend comprises approximately a C-shaped bend to conform the stabilizing member to the annulus, and the second bend comprises an upwardly directed bend.

20. A method as in claim 15, wherein changing the shape of the first stabilizing member comprises introducing a fluid into a shape-memory stabilizing member.

21. A method as in claim 15, further comprising locking the shape of the first stabilizing member.

22. A method as in claim 15, wherein applying force to the first stabilizing member comprises applying upwardly directed force in a direction from the ventricles toward the atria of the heart.

23. A method as in claim 15, wherein stabilizing further comprises introducing at least a second stabilizing member over the valve leaflets.

24. A method as in claim 23, further comprising moving the second stabilizing member toward the first stabilizing member to further stabilize the valve annulus.

25. A method for constricting a valve annulus in a beating heart, the method comprising:

introducing at least a first stabilizing member beneath one or more leaflets of a valve of the heart to engage the annulus at an intersection between at least one leaflet and an interior ventricular wall of the heart of the heart;

applying force to the first stabilizing member to stabilize the valve annulus; and

constricting at least a portion of the valve annulus while the valve annulus remains stabilized.

26. A method as in claim 25, further comprising:

introducing at least a second stabilizing member over the valve leaflets; and

moving the second stabilizing member toward the first stabilizing member further stabilize the annulus.

27. A method as in claim 26, wherein constricting comprises attaching a mechanical support structure to at least a portion of the valve annulus.

28. A method as in claim 27, wherein the mechanical support structure comprises a ring or a system of anchors and tethers.

29. A method as in claim 26, wherein constricting comprises applying energy to shrink at least a portion of the annular tissue.

30. A method for constricting a valve annulus in a beating heart, the method comprising:

introducing at least a first stabilizing member beneath one or more leaflets of a valve of the heart to engage the annulus at an intersection between at least one leaflet and an interior ventricular wall of the heart of the heart;

applying force to the first stabilizing member to stabilize the valve annulus;

securing individual anchors at circumferentially spaced-apart locations about at least a portion of the valve annulus while the valve annulus remains stabilized; and

cinching a tether through the anchors to circumferentially tighten the annulus.

31. A method as in claim 30, further comprising:

introducing at least a second stabilizing member over the valve leaflets; and

moving the second stabilizing ring toward the first stabilizing ring to further stabilize the annulus.

32. A method as in claim 31, wherein securing the anchors comprises driving the anchors from one of the first and second stabilizing members.

33. A method as in claim 32, wherein driving the anchors from one of the first and second members comprises inflating an expandable balloon in one of the members to force the anchors at least partially out of the member into tissue of the valve annulus.

34. A method as in claim 32, wherein securing the anchors further comprises driving the anchors through tissue of the valve annulus into an anchor receiving piece coupled with the other of the first and second stabilizing members.

35. A device for accessing a valve annulus of a heart, the device comprising:

an elongate body having a proximal end and a distal end; and

a first stabilizing member at the distal end of the body, wherein the first stabilizing member is positionable under one or more leaflets of a valve of the heart to engage a length of the annulus along an intersection between at least one leaflet and an interior ventricular wall of the heart.

36. A device as in claim 35, wherein the elongate body comprises a rigid shaft.

37. A device as in claim 35, wherein the elongate body comprises a flexible catheter, so that the first stabilizing member may be positioned in the heart and under the one or more leaflets via a transvascular approach.

38. A device as in claim 37, wherein the first stabilizing member comprises a shape-changing portion.

39. A device as in claim 38, further comprising at least a first tensioning cord coupled with the shape-changing portion for applying tension to the shape-changing portion to cause it to bend in at least a first direction.

40. A device as in claim 39, further comprising at least a second tensioning cord coupled with the shape-changing portion for applying tension to the shape-changing portion to cause it to bend in at least a second direction.

41. A device as in claim 40, wherein the first direction comprises approximately a C-shape for conforming to the annulus and the second direction comprises an upward or proximal direction for applying force to the annulus.

42. A device as in claim 39, wherein the shape-changing portion includes multiple notches along at least one side to control bending into a curve which conforms to the shape of the annulus.

43. A device as in claim 39, wherein the shape-changing portion comprises multiple stacked segments coupled with at least the first tensioning member to control bending into the shape of the annulus.

44. A device as in claim 38, wherein the shape-changing portion comprises a shape-memory material configured to conform to the shape of the annulus.

45. A device as in claim 44, wherein the shape-changing portion further comprises at least one lumen for introducing a fluid to cause the shape-memory material to conform to the shape of the annulus.

46. A device as in claim 35, wherein the first stabilizing member comprises:

a semicircular housing;

a plurality of tethered anchors disposed within the housing; and

at least one expandable balloon for driving the plurality of anchors into tissue of the valve annulus.

47. A device as in claim 46, wherein the anchors are selected from the group consisting of curved hooks, straight barbed hooks, clips, T-shaped fasteners, helical fasteners, rings, and shape memory fasteners.

48. A device as in claim 46, further comprising at least one mandrel for releasably coupling the anchors with the housing.

49. A device as in claim 48, wherein the anchors comprise a plurality of curved hooks, and wherein the mandrel comprises a pivot mandrel around which the hooks pivot to engage annular tissue.

50. A device as in claim 46, further comprising:

an inflation actuator for inflating the expandable balloon;

a release actuator for releasing the anchors from the housing; and

a cinching actuator for cinching a tether coupled with the tethered anchors to reduce a diameter of the valve annulus.

51. A device as in claim 46, further comprising at least a second stabilizing member movably coupled with the elongate shaft, wherein the second stabilizing member may be moved toward the first stabilizing member to further stabilize the valve annulus.

52. A device as in claim 51, further comprising at least one anchor receiving piece coupled with the second stabilizing member for receiving distal ends of the plurality of anchors driven through the tissue of the valve annulus.

53. A device as in claim 35, wherein the first stabilizing member comprises at least one deployable mechanical support structure for constricting the valve annulus.

54. A device as in claim 53, wherein the mechanical support structure comprises at least one shape memory stent couplable with the valve annulus, wherein the stent longitudinally shrinks when deployed to constrict the valve annulus.

55. A device as in claim 35, wherein the first stabilizing member comprises at least one energy delivery member for delivering energy to the valve annulus to constrict the annulus.

56. A device as in claim 55, wherein the energy delivery member comprises a radiofrequency delivery member.

57. A device as in claim 35, wherein the first stabilizing member comprises at least one drug delivery member for delivering at least one drug to the valve annulus to constrict the annulus.